

**STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE RECLAMATION BOARD
RESOLUTION 07-03**

**FOLSOM DAM SAFETY
AND
FLOOD DAMAGE REDUCTION JOINT FEDERAL PROJECT**

WHEREAS, planning for significant improvements for flood protection and dam safety has been underway for some years by the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation (Reclamation), the Reclamation Board (Board) and the Sacramento Area Flood Control Agency (SAFCA); and

WHEREAS, the Flood Control Act of 1944 (Public law 534) authorized the Corps to construct the Folsom Dam and Appurtenant Facilities (Folsom Facility); and

WHEREAS, Reclamation operates and maintains the Folsom Facility as an integral feature of the federal Central Valley Project; and

WHEREAS, Reclamation is pursuing dam safety modifications at the Folsom Facility through its Safety of Dams Program; and

WHEREAS, the Corps is responsible for flood damage reduction at the Folsom Facility; and

WHEREAS, the Corps is pursuing flood damage reduction modifications at the Folsom Facility under the Folsom Dam Modifications Project and the Folsom Dam Raise Project; and

WHEREAS, the Folsom Dam Modifications Project was authorized under Section 101(a) (6) of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-53) to reduce damages from flooding by increasing outlet efficiencies and by releasing water earlier in an approaching flood event; and

WHEREAS, the Folsom Dam Raise Project was authorized by the Energy and Water Development and Appropriations Act of 2004 (Public law 108-137) to improve flood protection by increasing the reservoir storage capacity at the Folsom Facility; and

WHEREAS, the State authorized the construction of the American River Watershed and Folsom Dam Modifications Projects in Section 12670.14 of the California Water Code; and

WHEREAS, the Energy and Water Development and Appropriations Act of 2006 (Public law 109-103) directs the Secretary of the Army and the Secretary of the Interior to collaborate and expend funds on authorized activities to both maximize flood damage reduction improvements and address dam safety needs at the Folsom Facility; and

WHEREAS, the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project (JFP) is the outcome of that collaboration; and

WHEREAS, the safety of dams objectives for Reclamation would be met through the construction of the JFP; and

WHEREAS, the flood damage reduction objectives of the Corps, SAFCA, and the Board would be met through the construction of the JFP; and

WHEREAS, the JFP includes those features that are jointly sponsored by all four participating agencies which include an auxiliary spillway with six submerged

tainter gates, a control structure and concrete-lined chute, stilling basin, and approach channel; and

WHEREAS, Reclamation is the federal sponsor for dam safety work at the Folsom Facility under the JFP; and

WHEREAS, the Corps is the federal sponsor for flood damage reduction work at the Folsom Facility under the JFP; and

WHEREAS, The Board is the non-federal sponsor for flood damage reduction work at the Folsom Facility under the JFP; and

WHEREAS, SAFCA is the local sponsor for flood damage reduction work at the Folsom Facility under the JFP; and

WHEREAS, Reclamation is the lead agency under the National Environmental Policy Act (NEPA) for the JFP and developed the Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the JFP; and

WHEREAS, the Corps is a Cooperating Agency under NEPA for the EIS/EIR; and

WHEREAS, the Board is the lead agency under the California Environmental Quality Act (CEQA) for the EIS/EIR; and

WHEREAS, SAFCA is a Responsible Agency under CEQA for the EIS/EIR; and

WHEREAS, the EIS/EIR includes dam safety measures that are not included in the JFP and for which Reclamation is the sole sponsor; and

WHEREAS, the EIS/EIR includes flood damage reduction measures under the Folsom Dam Raise Project that are not included in the JFP and that will be brought before the Board under a separate resolution in the future; and

WHEREAS, proposed changes in operation at the Folsom Facility as a result of construction of the JFP and the environmental effects due to those changes will be analyzed and addressed in a subsequent environmental document; and

WHEREAS, until changes in operation at the Folsom Facility have been implemented, the facility will continue to operate under existing rules; and

WHEREAS, the draft EIS/EIR was released for agency and public review on December 1, 2006; and

WHEREAS, in addition to No Project, the following five alternatives were analyzed for the JFP:

1. Fuseplug Auxiliary Spillway
2. Fuseplug Auxiliary Spillway with Tunnel
3. Joint Federal Project Gated Auxiliary Spillway with potential 3.5 foot parapet wall raise
4. Joint Federal Project Gated Auxiliary Spillway with potential 4 to 7 foot raise
5. No auxiliary spillway, 17 foot Dam/Embankment raise; and

WHEREAS, two public hearings were held for the EIS/EIR on January 9 and 10, 2007; and

WHEREAS, the review period for the EIS/EIR ended on January 26, 2007; and

WHEREAS, Reclamation, the Corps, the Board and SAFCA have reviewed and responded to all comments received and have completed a Final EIS/EIR on March 30, 2007; and

WHEREAS, Alternative 3 was selected as the Preferred Alternative for the JFP because it best met the sponsors' objectives and was assessed to have the least impacts of any alternative meeting all project objectives; and

WHEREAS, Reclamation and the Corps signed a Record of Decision on May 3, 2007 for the JFP; and

WHEREAS, a Statement of Findings for each potentially significant impact, that would result from the construction of the JFP, including a Finding of Overriding Considerations for unavoidable significant impacts has been prepared and is attached to this Resolution;

NOW THEREFORE BE IT RESOLVED, that

1. The Board certifies that the Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report, as a joint CEQA/NEPA document with the Reclamation as NEPA lead agency, and the Board as CEQA lead agency, has been prepared according to Section 15090 of the California Environmental Quality Act; and that
2. The Final EIS/EIR was presented to the Board and that the Board has reviewed and considered the information contained in the Final EIS/EIR, and that
3. The Final EIS/EIR reflects the Board's independent judgment and analysis.

LET IT BE FURTHER RESOLVED, that

1. In compliance with CEQA Guidelines Section 15091, the Board finds that
 - a. Changes and alterations have been required in, or incorporated into, the project which avoid or substantially lessen most of the significant environmental effects identified in the Final EIS/EIR, in the attached Statement of Findings and in the attached Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist (Checklist); and that
 - b. Other changes or alterations are within the responsibility and jurisdiction of Reclamation and not the Board as identified in the Final EIS/EIR and the Checklist and that such changes and alterations have been adopted by Reclamation; and that
 - c. Specific economic and technological considerations make it infeasible for the mitigation measures identified in the final EIS/EIR to reduce the impacts to less than significant and that the benefit to society from improved flood protection override the remaining unavoidable significant impacts as described in the Statement of Overriding Considerations.
2. The Board approves the Mitigation Monitoring Plan identified in the Checklist.
3. The Board approves the selection of Alternative 3, the Joint Federal Project Gated Auxiliary Spillway with potential 3.5 foot parapet wall raise.

4. The Board approves the Joint Federal Project.

DATED: _____

THE RECLAMATION BOARD OF
THE STATE OF CALIFORNIA

By _____
Benjamin F. Carter
President

By _____
Maureen "Lady Bug" Doherty
Secretary

APPROVED AS TO LEGAL
FORM AND SUFFICIENCY

By _____
Scott R. Morgan, Counsel

**STATEMENT OF FINDINGS AND STATEMENT OF OVERRIDING
CONSIDERATIONS**

FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION

**FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT
REPORT**

FOLSOM DAM SAFETY

AND

FLOOD DAMAGE REDUCTION JOINT FEDERAL PROJECT

These Findings address significant impacts from the construction of the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project, (JFP). The JFP is a coordinated flood damage reduction and dam safety project sponsored by the US Bureau of Reclamation (Reclamation), the U. S. Army Corps of Engineers (Corps), the Reclamation Board (Board), and the Sacramento Area Flood Control Agency (SAFCA).

The Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was released on March 30, 2007. Reclamation is the lead agency under the National Environmental Policy Act (NEPA) for the EIS/EIR. The Corps is a cooperating federal agency under NEPA for the EIS/EIR. The Board is lead agency for the EIS/EIR under the California Environmental Quality Act (CEQA) and SAFCA is a Responsible Agency for the EIS/EIR under CEQA.

The EIS/EIR describes and analyzes the environmental impacts from actions undertaken jointly by the sponsors under the JFP at Folsom Dam and Appurtenant Facilities (Folsom Facility). The EIS/EIR also describes and analyzes the environmental impacts from actions undertaken solely by Reclamation under its Safety of Dams program. Lastly, the EIS/EIR describes and analyzes the environmental impacts from flood damage reduction actions undertaken by the Board, SAFCA, and the Corps without participation by Reclamation.

This Statement of Findings and Overriding Considerations addresses only the work in the JFP. The JFP consists of an auxiliary spillway with six submerged tainter gates, an approach channel, a concrete lined chute, and a stilling basin. Construction of the JFP would take place in three phases. In phases 1 and 2, Reclamation would complete required environmental mitigation for the project and excavate the majority of soil and rock for the spillway chute and stilling basin. The Corps would complete excavation of the chute including the approach channel, and would construct the control structure and concrete lining of the chute, approach channel, and stilling basin as part of phase 3.

The changes and alterations incorporated into the JFP are in the attached *Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist*. The highlighted items in blue on the checklist are those associated with the JFP and are incorporated in these Findings.

Findings

The Board in its capacity as lead agency (CEQA Guidelines Sections 15091 and 15093) makes the following Findings:

- Changes and alterations have been required in, and incorporated into, the JFP that substantially lessen most, but not all, potentially significant impacts to less than significant. These changes and alterations are identified in the EIS/EIR in Chapter 3, Affected Environment, Impacts Analyses, and Mitigation Measures, and listed in *Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist*. This Checklist is included in and committed to by the Corps and Reclamation in the joint Record of Decision for the JFP. The Record of Decision was signed on May 3, 2007.
- Changes and alterations to reduce potentially significant adverse impacts from the Safety of Dams features are the sole responsibility of Reclamation. Reclamation has adopted the changes and alterations

necessary to reduce impacts from the Safety of Dams features in the Record of Decision, dated May 1, 2007 for the Folsom Dam, Safety of Dams and Security Upgrade Projects.

Statement of Overriding Considerations

- Changes and alterations have been required, and incorporated in the Project, that will reduce the potential significant and unavoidable temporary impacts to traffic, the potential significant impacts and cumulative impacts to air quality, and the unavoidable impacts to visual resources, which will nevertheless remain significant. These impacts are similar for all the construction alternatives. The selected Alternative 3 will result in the most economic combination of improvements to dam safety and flood damage reduction at the Folsom Facility that meet Project objectives and result in the least environmental impact of the alternatives. The improvements will significantly reduce the risk of catastrophic dam failure and flooding of areas downstream of the Folsom Facility, will increase the safety of several hundred thousand people, and will reduce the potential for loss of life and reduce damages to property worth several billion dollars in the Sacramento Urban Area.
- The Board finds that these benefits override the unavoidable significant impacts resulting from the construction of the Project.

Folsom Dam Safety and Flood Damage Reduction Joint Federal Project

Purpose:

The Folsom Dam Safety and Flood Damage Reduction Joint Federal Project (JFP) will provide a higher level of dam safety and flood protection for the City of Sacramento and surrounding area by modifying Folsom Dam and appurtenant facilities (Folsom Facility). The U.S. Army Corps of Engineers (Corps) reports that the Sacramento urban area is the largest community in the United States exposed to such a high risk of catastrophic flooding. This project combines the goals and efforts of the Folsom Dam Modifications Project and the Bureau of Reclamation's Dam Safety Remediation Project. The JFP together with other American River Watershed flood control projects reduces the risk for the Sacramento area from a risk of 1-in-86 to a 1-in-147 chance of flooding in any given year and will allow Folsom Dam to safely pass the 240 year design flood event.

Location:

Folsom Dam on the American River near the City of Folsom

Description:

Studies of the American River Basin have determined that, in the absence of a comprehensive long-term plan for a high level of flood protection, the City of Sacramento is at risk for rapid and deep flooding which could cause up to \$58 billion in property damages. Many lives are at risk, with associated risk to commerce, regional transportation, regional and State government, and long-term contamination of lands from toxic and hazardous wastes. The flood risk is further compounded by the basins' short flood warning time, currently estimated to be in the range of six to nine hours.

The JFP mitigates part of the risk to Sacramento by allowing earlier release of stored water in Folsom Reservoir to create storage space for approaching flood events. The JFP also allows Folsom Dam to safely pass the Probable Maximum Flood.

The JFP consists of a new gated auxiliary spillway southwest of Folsom Dam adjacent to the Left Wing Dam. Major features include (1) a 1,100-foot-long approach channel beginning in Folsom Lake, (2) a control structure, including six submerged tainter flood gates 33 feet high by 23 feet wide at a sill elevation of 368 feet above mean sea level (msl), (3) a 4,400-foot-long spillway chute with a bottom width of about 170 feet, and (4) a stilling basin in the American River.

Sponsors:

Federal: U.S. Army Corps of Engineers and U.S. Bureau of Reclamation
State: The Reclamation Board
Local: Sacramento Area Flood Control Agency

Maintenance Entities:

The Bureau of Reclamation will be responsible for operation of the new flood control features and will enter into a cost-sharing agreement with SAFCA. SAFCA will pay for the increased flood damage reduction component of operation and maintenance costs.

Elected Representatives:

Federal:

- House of Representatives - Dan Lundgren (District 3), John Doolittle (District 4), Jerry McNerney (District 11), Doris Matsui (District 5)
- Senate - Barbara Boxer and Dianne Feinstein

State:

- Senate - Dave Cox (District 1), Michael Machado (District 5), Darrell Steinberg (District 6)
- Assembly - Ted Gaines (District 4), Roger Niello (District 5), Alan Nakanishi (District 10),

Authorization:

Federal: Section 101(a) (6) of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-53) (Folsom Modifications Project)

Energy and Water Development and Appropriations Act of 2004 (Public law 108-137) (Folsom Dam Raise Project)

Energy and Water Development and Appropriations Act of 2006 (Public law 109-103) (Collaboration and development of JFP)

WRDA 2007 (pending)

State: Section 12670.14 of the California Water Code (American River Watershed and Folsom Dam Modifications Projects)

SB276 (pending)

Status:

The American River Watershed Long-Term Study culminated with the completion of an Integrated Final Supplemental Plan Formulation Report/Environmental Impact Report/Environmental Impact Statement (EIR/EIS). This document was completed in February 2002, and recommends a seven-foot raise of Folsom Dam. The Corps' Chief of Engineers subsequently recommended this alternative to Congress. In winter 2003, Congress authorized construction of a seven-foot raise as described in the Chief of Engineers' Report.

Subsequent studies undertaken by the Project partners known collectively as the PASS studies (Project Alternatives Solution Study; I/II/Optimization) determined that the objectives for Folsom Dam flood damage reduction and dam safety could be met with a new auxiliary spillway and a smaller three and one half foot dam raise together with the replacement of three emergency spillway gates on the dam.

In March 2007 the Corps released a Post Authorization Change Report that describes and updates the Folsom Dam Modifications Project, Folsom Dam Raise Project, and the JFP. The report and the JFP were formally approved on May 3, 2007 when the JFP Record of Decision was signed by both the Assistant Secretary of the Army and Assistant Secretary of Interior.

The Folsom Dam Safety and Flood Damage Reduction Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the JFP was released on March 30, 2007. Reclamation is the lead agency under the National Environmental Policy Act (NEPA) for the EIS/EIR. The Corps is a cooperating federal agency under NEPA for the EIS/EIR. The Board is lead agency for the EIS/EIR under the California Environmental Quality Act (CEQA) and SAFCA is a Responsible Agency for the EIS/EIR under CEQA.

Since the Corps has determined that the JFP is functionally equivalent to the original Folsom Modifications Project, the Corps and the Board are proceeding with design work under the original Folsom Dam Modifications Project authorities. The JFP will be clarified in Federal legislation when the proposed WRDA 2007 bill becomes law. As of this writing the WRDA legislation has passed both houses of Congress and is awaiting conference reconciliation and the President's signature. State legislation, SB276, is also pending to clarify the JFP.

Reclamation, under expedited authority to alleviate dam safety deficiencies at Folsom Dam, is currently advertising for a construction contractor to initiate excavation of the spillway. The spillway excavation contract will be let in September or October of 2007 with work continuing on this first phase for approximately one year. Reclamation is also working to obtain environmental permits and develop environmental mitigation for the project.

The Corps has estimated two years of hydrologic and hydraulic modeling studies will be required to design all elements of the JFP. After modeling and design work are complete the Corps will undertake the second phase of spillway excavation, the design and construction of six submerged tainter gates at the top of the spillway, as well as energy dissipation and stilling basin modifications for the project.

Estimated Costs:

\$847 million total

\$239 million non-Federal

Estimated Benefits:

Based on the June 2007 draft Economic Reevaluation Report average equivalent flood damages of about \$276.7 million would be reduced 51 percent by the JFP together with the Folsom raise project to about \$135 million. The benefit to cost ratio of the JFP alone is 3.0 and rises to 3.2 together with the Folsom Dam Raise Project.

Cost Allocation:

Dam safety costs for the project are paid solely by the federal government and CVP water users. Flood damage reduction will be cost shared with the federal government paying a maximum of 65 percent and the nonfederal sponsors paying a minimum of 35 percent. For flood damage reduction, the nonfederal sponsors will be the Board and SAFCA.

Funding Status:

Federal: The work is being funded by the Folsom Dam Modifications Project. A total of \$36.3 million in Federal funding has been provided to the Folsom Modifications Project. Please note that these figures overlap with funding listed in the Folsom Dam Modifications Project fact sheet.

Federal Funding Category	Amount (millions of \$)
Planning, Engineering, and Design	6.7
Construction 2001	4.7
2002	5.9
2003	6.5
2004	-1.2
2005	7.5
2006	6.2
Total	36.3

State: The work is being funded by the Folsom Dam Modifications Project. A total of \$28.75 million in State funding has been appropriated for the Folsom Dam Modifications Project. Please note that these figures overlap with funding listed in the Folsom Dam Modifications Project fact sheet.

State Funding	Amount (millions of \$)
FY00 (FED FY01)	1.58
FY01 (FED FY02)	17.71
FY02 (FED FY03)	
FY03 (FED FY04)	-7.76
FY04 (FED FY05)	
FY05 (FED FY06)	2.80
FY06 (FED FY07)	14.42
Total	28.75

Construction Schedule:

Construction of the project will take place over many years. Construction is estimated to begin in September 2007 and continue until 2014.

Right of Way Certification Schedule:

No schedule available yet. All work will be conducted on Federal land so there is likely to be no right of way requirements for the work.

Reclamation Board Actions:

The Board signed a letter of intent to the Corps District Engineer expressing their intent to participate in the Project on December 15, 2006.

An informational briefing was provided to the Board in June 2007, Resolution 07-03 will be brought to the Board in July 2007.

See also the Folsom Modifications Project fact sheet for previous Board actions under that Project.

Issues/Concerns:

Project Authorization

Although authorization to proceed exists under the Folsom Modifications Project, clarifying Federal and State legislation is required to complete the project at the new estimated costs.

Cost Escalation

The potential for cost escalation in the construction environment is high. The high cost of this project makes it especially vulnerable to inflationary pressures. The project sponsors are working to expedite the highest cost components of the work to minimize cost escalation.

State share of the non-Federal costs

Under the original Folsom Dam Modifications Project the State and SAFCAs signed a local Project Cooperation Agreement that established a cost share ratio of 70% State and 30% SAFCAs. Subsequent legislation (AB1147) establishes a 50% / 50% cost share ratio for the project. New State legislation is pending (SB276) which is expected to definitively establish the appropriate non-Federal cost share ratio for the project. The timing of passage and content of pending State legislation could have a large impact on the State share of Project costs.

Amended Project Agreements

Several project agreements must be amended to bring the JFP up to date. An Operations and Maintenance agreement must be amended between SAFCAs and Reclamation, the Local Project Cooperation Agreement between SAFCAs and the Board must be amended, and the Project Cooperation Agreement (PCA) between the Board

and the Corps must be amended. The complexity of the sponsor roles and the project suggests that a protracted period of negotiation will be required before all agreements are executed. For example the Corps estimates that 8-12 months will be required before the PCA is signed.

Project Engineer:

Robert Charney (916) 574-2010

**FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT
ENVIRONMENTAL COMMITMENTS CHECKLIST**

FOLSOM DAM SAFETY AND FLOOD DAMAGE REDUCTION

**FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT
REPORT**

**FOLSOM DAM SAFETY
AND
FLOOD DAMAGE REDUCTION JOINT FEDERAL PROJECT**

The attached *Folsom Safety of Dams and Joint Federal Project Environmental Commitments Checklist* was originally included in and committed to by the Corps and Reclamation in the joint Record of Decision for the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project (JFP). The Record of Decision was signed on May 3, 2007. The checklist is provided in its entirety to document the full scope of environmental commitments made by the Federal Government for the Joint Federal Project and ancillary projects at Folsom Dam.

The original checklist has been modified slightly for the purposes of Reclamation Board Resolution 07-03 and CEQA. Text highlighted in blue indicates concurrent commitments to be made by the Reclamation Board as the lead agency under CEQA. These commitments are for work under the JFP only and not for work conducted solely by Reclamation under its Safety of Dams program, and not for work under the Folsom Dam Raise project.

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
Hydrology, Water Quality, and Groundwater							
1: Obtain a National Pollutant Discharge Elimination System (NPDES) permit, file a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board (CVRWQCB), and prepare a Stormwater Pollution Prevention Plan (SWPPP).	Potential water quality impacts within the reservoir or small local tributaries that discharge into the reservoir.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Before, during and following construction until site restoration	NPDES Permit requirements . SWPPP and Water Quality Monitoring Plan, Plans and Specification s	CVRWQCB	Reclamation CCAO	
2: Incorporate SWPPP measures to control sediment and on-site spills, use eco-friendly Best Management Practices (BMPs) and prevent spills. If there is a failure of BMPs, the SWPPP will contain provisions for a visual monitoring program and a chemical monitoring program for pollutants that are non-visible.	Potential impacts on drainages and waterways.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	During construction	SWPPP and Water Quality Monitoring Plan, Plans and Specification s	CVRWQCB	Reclamation MPCO, CCAO	
3: Prepare and obtain permits abided by as stated in Section 401 and Section 404 of the Clean Water Act (CWA).	Potential impacts on water quality due to soil erosion associated with material being excavated and placed in	Reclamation Secs. 404/401 permit/cert for Phase 1 and 2 auxiliary spillway construction and all SOD work Corps Sec. 401 cert for Phase 3 auxiliary spillway work	Before and during construction	Section 401 and Section 404 approvals	Corps, CVRWQCB	Reclamation MPCO, CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
4: Obtain guidance from the CVRWQCB for testing earthen materials before constructing work area platforms within or adjacent to the reservoir. BMPs will be adhered to in order to minimize water quality impacts during the placement of fill in the reservoir.	Potential impacts to water quality from stockpiling of materials in reservoir.	Reclamation obtain guidance Contractor implements BMPs	Before and during placement of fill below typical maximum reservoir water level	Water Quality Monitoring Plan, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	
5: Develop a Water Quality Monitoring Plan for review by the CVRWQCB prior to any in reservoir construction work. The plan will address sampling requirements during dredging, blasting, excavation, and placement of fill within the reservoir. Assessment of metals in freshwater sediment will be based on recommendations stated in the Fish and Wildlife Coordination Act Report (FWCAR). Sediment containing elevated concentrations of metals will be controlled using BMPs and construction methods approved by the CVRWQCB.	In-reservoir construction work could cause adverse water quality effects.	Reclamation develops plan Contractor implements BMPs Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Before and during all construction work	Water Quality Monitoring Plan, FWCAR, Plans and Specifications	CVRWQCB	Reclamation MPCO, CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
6: Obtain a dewatering permit from CVRWQCB and implement water quality monitoring during construction of the approach channel.	Potential to impact water quality from construction of the approach channel.	Corps/Contractor obtains permit Contractor implements BMPs for Phase 3 spillway work	Before and during approach channel construction work	Water Quality permit, Plans and Specification	CVRWQCB	Reclamation MPCO, CCAO	
7: Perform jet grouting tests at Mormon Island Auxiliary Dam (MIAD) prior to implementing the full jet grouting action. If leakages are expected to occur and could cause adverse water quality effects, a cutoff wall will be constructed before jet grouting occurs at MIAD.	Potential to impact water quality and water levels downstream of MIAD.	Reclamation	During and immediately following jet grouting	Environmental Commitment Plan	CVRWQCB, Reclamation MPCO	Reclamation CCAO	
8: Monitor surface and groundwater levels and water quality prior to, during, and after jet grouting of MIAD.	Potential to reduce the water source and quality and result in adverse water quality effects for the wetlands downstream of MIAD.	Reclamation/Construction on Contractor	Before, during, and 6 months following jet grouting	Environmental Commitment Plan, FWCAR, Plans and Specifications	CVRWQCB, USFWS	Reclamation CCAO	
9: Cease work should jet grout daylight more than 50 ft from the point of construction or until it can be determined that the grout will remain localized.	Potential to impact water quality downstream of MIAD.	Reclamation/Construction on Contractor	During jet grouting	Environmental Commitment Plan, Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
10: Inspect all wetlands near jet grout injection that could be	Potential to impact water	Reclamation/Construction on Contractor	During jet grouting	Environmental	Reclamation MPCO	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
Impacted by construction for the presence of grout at a frequency of once per hour.	Quality downstream of MIAD.			Commitments Plan, Plans and Specifications Environmental			
11: Line all temporary jet grout solidification areas with an impervious material that does not allow the migration of any construction-related wastes.	Potential to impact water quality downstream of MIAD.	Reclamation/Construction on Contractor	During jet grouting	Commitments Plan, Construction Plans and Specifications Reclamation MPCO	Reclamation MPCO	Reclamation CCAO	
Water Supply	Potential interruption of water supplies to local purveyors from relocation of Natomas Pipeline.	Reclamation/Construction on Contractor	During bypass connection and reconnection to existing service line	Environment al Commitment s Plan, Plans and Specification s	Reclamation MPCO, City of Folsom, Department of Corrections	Reclamation CCAO	
1: Construct a temporary bypass using means that will not disrupt water supply. These means will be discussed with the affected parties prior to implementation.							
Air Quality		Reclamation/ Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	SMAQMD Emissions Reduction Plan, Plans and Specification s	SMAQMD	Reclamation MPCO, CCAO		
1: Submit a plan for approval by Sacramento Metropolitan Air Quality Management District (SMAQMD), demonstrating that the heavy-duty off-road vehicles will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction.	Potential adverse air quality impacts from construction activities.		Submittal prior to initiation of construction				

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
2: Submit to the SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. At least 48 hours prior to the use of subject heavy-duty off-road equipment, submit to SMAQMD the anticipated construction timeline.	Potential adverse air quality impacts from construction activities.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work	Submittal prior to initiation of construction	SMAQMD Off-Road Equipment Inventory, Plans and Specifications	SMAQMD	Reclamation MPCO, CCAO	
3: Demonstration of Conformity with NOx de minimis threshold levels.	Potential adverse air quality impacts from construction activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	Prior to initiation of construction	NOx de minimis demonstration, Plans and Specifications	USEPA	Reclamation MPCO, CCAO	
4: Apply fugitive dust control on roadways, processing plants, and concrete batch plants to reduce PM10 and PM2.5 emissions at or below required levels.	Potential adverse air quality impacts from construction activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway	During construction	Fugitive Dust Control Plan, Plans and Specifications	SMAQMD	Reclamation MPCO, CCAO	
5: Obtain power for the concrete batch plants and rock/material screening	Potential adverse air quality impacts from construction	Reclamation/Construction on Contractor for Phase 1 and 2 spillway	Prior to and during construction	SMAQMD Emissions Reduction	SMAQMD, Reclamation MPCO	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
facilities from the electric utility grid, not diesel-driven generators and pumps.	activities.	Corps/Construction Contractor for Phase 3 spillway work	construction and all SOD work	Plan/ NOx de minimis Demonstration, Plans and Specification s			
⑥: Encourage contractors to seek additional control measures as part of emissions off-sets.	Potential adverse air quality impacts from construction activities.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work	Prior to construction	SMAQMD Emissions Reduction Plan, Plans and Specification s	Reclamation MPCO	Reclamation CCAO	
Aquatic Resources	1: Complete protocol surveys for special-status branchiopods prior to any grading or other construction activities in potential habitat for these species.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation	Prior to construction	Environmental Commitment s Plan	Reclamation USFWS CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
2: Avoid (preserve) and monitor potential vernal pool habitat by placing fencing and a suitable buffer area around the vernal pool area to prevent effects from vehicle compaction and other construction-related activities. Report and stop activities that may result in such take or destruction until corrective measures have been taken.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation/Constructor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, Plans and Specifications	USFWS	Reclamation CCAO	
3: Compensate for loss of vernal pool habitat in a manner outlined in the USFWS Biological Opinion for the project. Provide proof of purchase (payment receipts) of vernal pool preservation and creation/restoration credits to the USFWS prior to the commencement of ground-disturbing activities.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation	Prior to construction	Habitat Mitigation Plan, Environmental Commitment Plan	USFWS	Reclamation CCAO	
4: Make the top layer of soil available to any vernal pool creation bank that requests it, with USFWS approval, for inoculating newly created ponds.	Potential impacts on habitat for protected vernal pool invertebrates or direct impacts to these species.	Reclamation/Constructor on Contractor	During construction	Environmental Commitment Plan, Plans and Specifications	USFWS	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
5: Develop and implement a fish removal plan prior to construction of the approach channel.	Construction of the approach channel would displace and potentially harm fish.	Corps	Before and during construction	Approach Channel Dewatering Permit, Fish Management Plan	CDFG, CVRW/QCB	Corps	
6: Conduct bioassessment studies prior to, during, and after jet grouting of the MIAD foundation.	Potential impacts to wetlands.	Reclamation	Prior to, during, and 4 years following jet grouting	Environmental Commitment Plan	CVRW/QCB	Reclamation CCAO	
Terrestrial Vegetation and Wildlife							
1: Conduct pre-construction surveys within the project footprint in all areas that may contain suitable habitat for special-status plant, invertebrate, or wildlife species. Identify locations of special status plant, invertebrate, or wildlife species and take necessary measures to provide protection.	Potential alteration of terrestrial habitat for special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to construction	Environmental Commitment Plan, FWCAR	USFWS, CDFG	Reclamation CCAO	
2: Avoid and monitor any populations of special-status plant, invertebrate, or wildlife species by placing fencing around the population and a suitable buffer area. Ensure no disturbance.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work	Prior to and during construction	Environment al Commitment Plan, FWCAR, Plans and Specification s	USFWS, CDFG	Reclamation CCAO, MPCO Corps	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
3: During the construction period, consult with the appropriate agency to remove individuals of special-status species from the project area, according to USFWS and CDFG laws, handling guidelines, licenses, and permits.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	During construction	Environmental Commitment Plan, needs to inform	USFWS, CDFG	Reclamation CCAO, Corps	
4: Consult with USFWS and CDFG should populations of special-status plant, invertebrate, or wildlife species be found that cannot be avoided; special mitigation measures may need to be developed for those populations.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation will consult Construction Contractor needs to inform Reclamation in Phase 1 and 2 spillway construction and all SOD work Construction Contractor needs to inform Corps in Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, FWCAR	USFWS, CDFG	Reclamation CCAO, MPCO Corps	
5: The nondiscretionary measures for listed species from the project's Biological Opinion described in the Environmental Commitments section of the ROD must be implemented by the responsible Federal agency. (See Environmental Commitments for Terrestrial Vegetation and Wildlife 20, 21, 22, 23, and 24 as well as Aquatics 1, 2, 3, and 4.) Should project features change	Potential alteration and loss of terrestrial habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to, during, and after construction	Environmental Commitment Plan, Biological Opinion	USFWS	Reclamation CCAO, MPCO Corps	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
from those described in the BO, then the responsible Federal agency will be required to re-consult with the USFWS.							
6: Conduct environmental awareness training for all on-site construction personnel regarding the potential presence of listed, special-status, and protected (e.g., oak trees) species in the project area and the importance of avoiding impacts to these species and/or habitats and reporting sightings. Provide the USFWS with proof of environmental training.	Potential alteration and loss of terrestrial habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construct on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Environmental Commitment Plan, Biological Opinion, Plans and Specifications	USFWS, CDFG	Reclamation CCAO, MPCO Corps	
7: Initiate excavation and construction activities, to the extent possible, during non-breeding seasons for special-status and protected wildlife. Habitat will be removed during the non-breeding season if practicable to preclude return to the project area by the species during construction activities.	Potential impacts to special status wildlife habitat during construction activities.	Reclamation	Prior to construction	Environmental Commitment Plan	USFWS, CDFG	Reclamation CCAO, MPCO	
8: Remove vegetation and potential bird breeding habitat, to the extent practical, between September 1 and February 28, when birds are not expected to be nesting within the project area.	Potential impacts to bird breeding habitat during construction activities.	Reclamation	Prior to construction	Environmental Commitment Plan, MBTA, Executive Order 13186	USFWS, CDFG	Reclamation CCAO, MPCO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
9: Clean all mud, soil, and plant/animal material from the equipment prior to bringing it on the project site.	Impact of importation of non-native plants or animals.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Construction Contractor for Phase 3 spillway work	Prior to and during Construction	Environmental Commitment Plan, Plans and Specifications	Reclamation MPCO Corps	Reclamation CCAO	
10: Implement eco-friendly erosion and sedimentation control measures for all grading, filling, clearing of vegetation, or excavating that occurs as part of site and haul road construction.	Potential impacts to special-status plants, invertebrates, or wildlife species.	Reclamation/Construct on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During construction	Environmental Commitment Plan, FWCAR, Plans and Specifications	USFWS, Reclamation MPCO	Reclamation CCAO	
11: Minimize dust impacts to vegetation, wetlands, and breeding wildlife. Use dust palliative approved by the USFWS. Control truck speed to avoid visible dust.	Potential impacts to special-status plants, invertebrates, or wildlife species and habitats.	Reclamation will consult on dust palliative Reclamation's Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	During construction	Fugitive Dust Control Plan, Biological Opinion, Environmental Commitment Plan, Plans and Specifications	Reclamation MPCO, USFWS	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
12: Develop a Revegetation Plan in coordination with USFWS to address potential losses to all habitats impacted within the project footprint.	Potential alteration or loss of habitat for special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to construction	Revegetation Plan, FWCAR	USFWS	Reclamation CCAO	
13: Monitor all revegetated or disturbed areas for invasive non-native plant species for three to five years following completion of construction.	Impact of competition by invasive non-native plants.	Reclamation	Following construction disturbance	Revegetation Plan	Reclamation CCAO	Reclamation CCAO	
14: Follow recommendations in the FWCAR and complete mitigation in the FWCAR for all affected habitats. The extent of mitigation will be determined and documented in the MMRP prior to the commencement of construction activities.	Potential alteration or loss of habitat or impacts to special-status plants, invertebrates, or wildlife species.	Reclamation	Prior to, during and following construction	Environmental Commitment Plan, Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
15: Compensate for native oaks and oak-grey pine woodlands impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of native oaks and oak-grey pine woodlands.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
16: Compensate for riparian vegetation impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of riparian vegetation.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
17: Compensate for chaparral vegetation impacted by construction at the ratio stipulated in the FWCAR.	Potential alteration or loss of chaparral vegetation.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
18: Compensate for wetlands impacted by construction at the ratio stipulated in the FWCAR.	Loss of wet-land from construction-related activities.	Reclamation	During and following construction	Habitat Mitigation Plan, FWCAR	USFWS	Reclamation CCAO	
19: Develop and implement a Bird Monitoring Plan to monitor and mitigate construction-related impacts to birds during the breeding season. Nest monitoring will be conducted by a biologist qualified and experienced in such methods. Establish a nest buffer zone; implement acoustic hazing.	Potential impacts to breeding birds during construction activities.	Reclamation	Prior to and during construction	Bird Monitoring Plan, MBTA, Executive Order 13186	Reclamation CCAO	Reclamation CCAO	
20: Establish with high visibility fencing around all elderberry plants containing stems measuring 1.0 inches or greater in diameter at ground level prior to construction and maintain a 100-foot buffer zone. Informational signs will be erected every 50 ft along the edge of the buffer. Provide the	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation/Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Contractor for Phase 3 spillway work	Prior to and during construction	Habitat Mitigation Plan, Biological Opinion, Plans and Specifications	USFWS, MPCC	Reclamation CCAO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
USFWS with a map identifying avoidance area(s) and written details describing avoidance measures. Consult with USFWS before any disturbances within the buffer area can occur; report any adverse effects to the buffer area to the USFWS. Restore and maintain affected area.					Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	Reclamation CCAO	
21: Transplant each elderberry plant that cannot be avoided during Folsom SOD/JFP construction to a conservation area approved by USFWS. Should the project affect a lesser or greater number of stems than discussed in the Biological Opinion, then Reclamation will reinitiate consultation with the USFWS.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	Prior to construction and following transplanting	USFWS	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	Reclamation CCAO	
22: Compensate for each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected during Folsom SOD/JFP construction with elderberry seedlings and associated native plant seedlings in the conservation area Compensation shall be completed within six months after construction begins on the project.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	During and following transplanting	USFWS	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	Reclamation CCAO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
23: Plant native plants associated with elderberry plants at the Folsom SOD/JFP actions, or at similar reference sites.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	During and following transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
24: Establish a conservation area distinct from the project area that will be protected in perpetuity as a compensation site for transplanted elderberry plants and associated native vegetation. Provide at least 1,800 square feet for each transplanted elderberry plant Monitor for a period of up to 15 years. Deliver to the Chief of the Endangered Species Division of the USFWS, fulfillment of compensation requirements.	Potential impacts to host plants for the valley elderberry longhorn beetle.	Reclamation	Prior to transplanting	Habitat Mitigation Plan, Biological Opinion, VELB Conservation Guidelines	USFWS	Reclamation CCAO	
25: Delineate wetlands downstream of MIAD prior to jet grouting using flagging. No equipment will be staged within 25 ft of a wetland, nor will work take place within 25 ft of a wetland.	Potential impacts to wetlands	Reclamation delineates wetlands Construction Contractor avoid wetlands	Prior to and during jet grouting	Habitat Mitigation Plans and Specifications	Reclamation MPCO	Reclamation CCAO	
26: Develop a monitoring and adaptive management plan with the USFWS to monitor the	Potential impacts to wetlands	Reclamation	Prior to, during, and following jet	Habitat Mitigation Plan,	USFWS	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
hydrology and vegetation at Mormon Island Preserve. Establish baseline and monitor for 6 months following construction. Implement adaptive management mitigation to return effected systems to baseline conditions if necessary.			grouting	FWCAR			
Soils, Minerals, and Geological Resources							
1: Prepare a geologic site characterization report (signed by a California Registered Geologist) to address asbestos concerns and a county approved Dust Mitigation Plan. Implement measures in Dust Mitigation Plan.	Potential adverse air quality impacts from construction.	Reclamation prepares report Construction Contractor implements dust plan in Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor implements in Phase 3 spillway work	Prior to and during Construction	Geologic Site Characterization Report, Fugitive Dust Control Plan, Plans and Specification s	Sacramento and El Dorado counties, Reclamation MPCO, Corps	Reclamation CCAO	
2: Comply with Hydrology, Water Quality, and Groundwater Measure #1.	Potential sedimentation impacts within the reservoir or small local tributaries that discharge into the reservoir.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Before, during and following construction until site restoration	NPDES Permit requirements , SWPPP and Water Quality Monitoring Plan, Plans and Specification s	CVRWQCB	Reclamation CCAO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Enforcement Responsibility	Monitoring Action or Plan	Monitoring Responsibility	Compliance (Date)
Visual Resources							
None.							
Agricultural Resources							
None.							
Transportation and Circulation							
1: Prepare a Peak Hour Capacity analysis (as a section of a Traffic Management/Circulation Plan) on specific intersections to evaluate the need for traffic improvement measures, in coordination with the transportation departments of the affected jurisdictions.	Transportation effects from construction.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	Prior to and during construction	Traffic Management / Circulation Plan	MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	
2: Prepare a transportation management plan, outlining proposed routes to be approved by the appropriate local entity, and implement it. To the extent practicable, deliveries will be restricted to non-commute hours.	Transportation effects from construction.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Traffic Management / Circulation Plan, Plans and Specifications	MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	
3: Develop and utilize appropriate signage to inform the general public of the haul routes and route changes, if applicable.	Transportation effects from construction.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Traffic Management / Circulation Plan, Plans and Specifications	MPCO, CCAO, City of Folsom, City of Roseville, Placer County	Reclamation CCAO	

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Noise							
1: Incorporate the appropriate level of sound attenuation on equipment or near facilities that will attenuate sound at sensitive receptors to comply with local noise ordinances.	Noise impacts generated by construction activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During construction	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, CCAO	Reclamation CCAO	
2: Maintain equipment to comply with noise standards (e.g., exhaust mufflers, acoustically attenuating shields, shrouds, or enclosures).	Noise impacts generated by construction activities.	Construction Contractor	All construction	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
3: Enclose above-ground conveyor systems in acoustically-treated enclosures, if necessary.	Noise impacts generated by construction activities.	Construction Contractor	All construction	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
4: Line or cover hoppers, conveyor transfer points, storage bins and chutes with sound-deadening material.	Noise impacts generated by construction activities.	Construction Contractor	During construction	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
5: Schedule truck loading, unloading, and hauling	Nighttime noise impacts	Construction Contractor	During construction	Noise Monitoring	Reclamation MPCO, Corps	Reclamation CCAO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
Operations so as to reduce nighttime noise impacts to comply with local noise ordinances.	generated by construction activities.			Plan, Plans and Specification s			
6: Schedule blasting to daylight hours only and will adhere to restrictions on blasting as stated per Reclamation and Corps' safety regulations.	Noise impacts generated by blasting activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
7: Monitor blasting vibration per Reclamation and Corps safety guidelines.	Noise impacts generated by blasting activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
8: Examination of any properties, structures and conditions where complaints of damages have been filed will be performed within three weeks of rock excavation and blasting work.	Noise impacts generated by blasting activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	During blasting periods	Noise Monitoring Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Enforcement Action or Responsibility Plan	Monitoring Action or Responsibility	Monitoring Responsibility	Compliance (Date)
Cultural Resources	Potential impacts to historic properties and/or historical resources.	Reclamation	Prior to award of contract	Section 106	SHPO	Reclamation CCAO	
1: Complete the Section 106 process prior to the award of any construction contract for the proposed project.	Potential impacts to historic properties and/or historical resources.	Reclamation	Prior to construction/during construction if additional cultural resources are found	SHPO Programmatic Agreement	SHPO	Reclamation CCAO	
2: Develop a memorandum of agreement or a programmatic agreement with SHPO to mitigate impacts to any identified historic properties or historic resources. Implement mitigation measures per agreement.	Potential impacts to historic properties and/or historical resources.	Reclamation	Reclamation/Construction for Phase 1 and 2 spillway construction and all SOD work	SHPO Programmatic Agreement, 36 CFR Part 800.13, Inadvertent Discovery of Human Remains (LND 07-01), Plans and Specifications	SHPO	Reclamation CCAO	
3: Include in the standard contract specifications directions to follow in the unlikely event of the discovery of human remains or other cultural resources during the construction phase of this project.	Potential impacts to historic properties and/or historical resources.	Corps/Construction Contractor for Phase 3 spillway work	Corps/Construction Contractor for Phase 3 spillway work				
Land Use, Planning, and Zoning							
None.							

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Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
Recreation							
1: Damages to recreation facilities will be replaced in kind, in accordance with agency policies and guidance.	Potential construction-related damages to recreation facilities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During and following construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
2: Post signage and public announcements to inform the public of construction activities and recreational facility closures. Provide instructions as to where alternative access to Folsom Reservoir will be possible.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	Prior to and during construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO Corps	Reclamation CCAO	
3: Consolidate to the extent practicable, material processing and batch operations at the Overlook and Left Wing Dam areas. When materials processing or stockpiling cannot be located sufficiently distant from developed recreation areas, appropriate measures would be taken for noise and safety considerations.	Decline of recreational experience at Folsom Reservoir.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	

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4: Re-contour sites used for stockpiling, disposal, staging and construction activities, as appropriate, to pre-construction conditions or to contours which do not pose a safety hazard.	Potential public recreation safety hazard.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During and following construction	Recreation Management Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
5: Provide nearly continuous access to all recreation sites at Folsom Reservoir through grade separation, detours, traffic controls, reconfiguration of roadways or other measures. Ensure that the entrance stations at Folsom Point and Beal's Point will meet public safety and traffic requirements during construction.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction on Contractor for Phase 3 spillway work	During construction	Recreation Management Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
6: Ensure that construction activities and any temporary or more extended closures will be scheduled to minimize impacts during peak recreation use periods, holidays, and special events so as to allow public access to the extent practical.	Potential loss of recreational use at Folsom Reservoir.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During construction	Recreation Management Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
7: Develop a Traffic Management Plan (as a chapter of the Recreation Management Plan) for all public roads and trails within the recreation areas where both public and construction traffic occur. An	Construction traffic could result in substantial interruptions to recreation.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work	During construction	Recreation Management Plan, Plans and Specification s	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	

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appropriate mile per hour speed limit would be imposed in all public areas close to or intersecting construction. Construction crews and traffic will utilize internal haul routes, to the extent practicable.		spillway work					
8: Identify suitable detours, with appropriate signage, for any bike, equestrian, or pedestrian trails that are interrupted by construction, per agency guidance and policy. Post public service announcements to inform the public of route changes. Relocate trails where possible to allow trail access during construction.	Loss of recreational trail use.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Recreation Management Plan	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
9: Notify the public and provide the opportunity for public input prior to any extended closure of any recreational facility.	Potential loss of recreational use.	Reclamation for Phase 1 and 2 spillway construction and all SOD work Corps for Phase 3 spillway work	During construction	Recreation Management Plan	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
Public Services and Utilities		Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Plans and Specification s, Environmental Commitment s Plan	Reclamation MPCO, Corps, Local Utilities and appropriate agencies	Reclamation CCAO	
1: Coordinate with utility companies and other relevant agencies before construction to locate existing utilities and avoid damage. Avoid the relocation of utilities whenever possible. Provide notification of any potential interruptions in services to the appropriate agencies.	Potential disruption/relocation of infrastructure.						

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
2: Stage utility relocations to minimize interruptions in service.	Potential effects to infrastructure.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Plans and Specification s, Environmental Commitment s Plan	Reclamation MPCO, Corps, Local Utilities and appropriate agencies	Reclamation CCAO	
3: The Construction Contractor will be instructed to select licensed landfills with adequate capacity to receive the wastes.	Construction activities would generate solid waste.	Construction Contractor	Prior to and during construction	Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
4: The Construction Contractor will be instructed to recycle construction wastes whenever possible.	Construction activities would generate solid waste.	Construction Contractor	During construction	Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
5: The Construction Contractor will be directed to dispose of hazardous wastes at licensed hazardous waste facilities.	Construction activities would generate hazardous waste.	Construction Contractor	During construction	Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
6: Consult with local police, fire, and recreation managing partner to develop and implement emergency response plans and establish emergency vehicle routes.	Potential increase in emergency response times to the Folsom Facility.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to construction	Emergency Response Section of Worker Health and Safety Plan, Plans and Specification s	Reclamation MPCO, Corps	Reclamation CCAO	
Hydropower Resources							
None.							

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
Population and Housing							
None.							
Public Health and Safety							
1: Prepare a Recreation Management Plan to maintain public safety during all phases of construction. Components of the plan will address public notification of recreation facilities closure duration, location, restrictions, signage, safety fencing requirements, and coordination with local jurisdictions.	Construction activities could result in health and safety impacts to the public.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to and during construction	Recreation Management Plan, Plans and Specifications	Reclamation MPCO, Corps, Recreation Management Partner	Reclamation CCAO	
2: Prepare and implement a Fire Management Plan as part of the Worker Health and Safety Plan. The plan will include fire prevention and response methods including fire precaution, pre-suppression, and suppression measures consistent with the policies and standards in the affected jurisdictions.	Potential for fire hazards during construction activities.	Reclamation/Construction on Contractor for Phase 1 and 2 spillway construction and all SOD work Corps/Construction Contractor for Phase 3 spillway work	Prior to construction	Worker Health and Safety Plan (Fire Management section), Plans and Specifications	Reclamation MPCO, Corps, Appropriate city and county officials	Reclamation CCAO	
3: Prepare and implement a Worker Health and Safety Plan in compliance with Occupational Safety and Health Administration (OSHA) construction standards prior to the start of construction activities.	Construction activities could result in exposure to hazardous materials or other health and safety issues.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	Prior to construction	Worker Health and Safety Plan, Plans and Specifications	Reclamation MPCO, Corps, OSHA	Reclamation CCAO	

FOLSOM SAFETY OF DAMS AND JOINT FEDERAL PROJECT ENVIRONMENTAL COMMITMENTS CHECKLIST

Environmental Commitment/Mitigation Measures	Impact(s) being Mitigated	Implementation Responsibility	Project Phase of Mitigation	Monitoring Action or Plan	Enforcement Responsibility	Monitoring Responsibility	Compliance (Date)
4: Prepare a Hazardous Materials Management Plan that establishes the plan of action if hazardous materials are encountered during construction. Establish BMPs to reduce the potential for exposure to hazardous wastes.	Construction activities could result in exposure to hazardous materials.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	Prior to and during construction	Hazardous Materials Management Plan, Plans and Specifications	Reclamation MPCO, DTSC, Local agencies	Reclamation CCAO	
5: Use as appropriate blasting mats to cover blasts in order to minimize the possibility of fly rock.	Safety concern during blasting.	Construction Contractor for Phase 1 and 2 spillway construction and all SOD work Corps' Construction Contractor for Phase 3 spillway work	During blasting periods	Worker Health and Safety Plan, Plans and Specifications	Reclamation MPCO, Corps	Reclamation CCAO	
Indian Trust Assets							
None.							
Environmental Justice							
None.							